

SECTION 10100

DISPLAY CASES

PART 1 - GENERAL

0.1 DESCRIPTION OF WORK

- A. Work Included: This Section specifies all display cases as indicated on the Drawings and specified herein.
- B. Transportation: Deliver all display cases and related elements, including mounting hardware, to the job site.
- C. Temporary: Provide fabrication, erection, and removal of any and all temporary safety barricades, temporary holding, retaining or storage structures necessary as described herein.

0.2 PERFORMANCE REQUIREMENTS

- A. Design Criteria: Design, fabricate, and install display cases to withstand normal exposure to weather, temperature variation, wind loads and building movement; provide units resistant to vandalism and theft.
- B. Field Measurements: Check actual locations of construction - to which metal fabrications must fit - by accurate field measurements before fabrication; show recorded measurements on final shop drawings.
- C. Thermal Movements: Allow for thermal movement resulting from the following maximum change (range) in ambient temperature in engineering, fabricating, and installing cases to prevent buckling, opening of joints, over stressing of components and connections, and other detrimental effects. Base engineering calculation on actual surface temperatures of materials due to both solar heat gain and nighttime sky heat loss.
 - 1. Temperature Change (Range): 0 - 180 deg F ambient, material surfaces.
- D. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

0.3 SUBMITTALS

- A. All submittals shall be provided to the Designer of Record and MBTA Capital Delivery Department for review; disposition and documentation management will be provided by the MBTA Capital Delivery Department.

- B. Product Data: Manufacturer's product data, any limitations and recommendations for each material used, installation instructions, and manufacturer's certification (stating that materials comply with requirements) for the Designer of Record and MBTA Capital Delivery Department's review and approval.
 - 1. Include material details for each display case specified.
- C. Shop Drawings: Submit shop drawings showing layout, profiles, and product components, including dimensions, anchorage, all details, plans and sections required to indicate all conditions. Provide four copies of shop drawings for action by the Designer of Record and MBTA Capital Delivery Department. After action provide two copies of shop drawings on which action has been taken to the Designer of Record and MBTA Capital Delivery Department for Designer of Record and MBTA Capital Delivery Department's records.
- D. Reuse of Existing Sign Frames: For reuse of existing sign frames at existing stations, verify rough opening of all dimensions and fill in on schedule column labeled: "Verification". Advise the MBTA Capital Delivery Department of any discrepancies between design size and field-verified size.
- E. Samples for Approval: Submit suppliers standard color chart for selection purposes and selected colors to the Designer of Record and MBTA Capital Delivery Department for verification purposes.

0.4 QUALITY ASSURANCE

- A. Reference Standards: The work shall conform to the codes and standards of the following regulatory Agencies and Authorities as further cited herein:
 - 1. ADAAG: Americans with Disabilities Act Accessibility Guidelines
 - 2. ANSI: American National Standards Institute.
 - 3. ASTM: American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103 as published in "Compilation of ASTM Standards in Building Codes".
 - 4. MAAB: Massachusetts Architectural Access Board.
- B. Source: Obtain all products in this section from a single supplier.
- C. Qualifications: The approved manufacturer shall have a minimum of 5 years of successful experience with similar work, and shall have a reputation for doing satisfactory work on time.
- D. Engineering: The Contractor is responsible for the proper engineering of all items. The internal structure, dimensions and specifications for all items shall be indicated in the Contractor's shop drawings. Contractor to engineer display cases to proper level to withstand abuses of their environment.

- E. Coordination: The work in this Section shall be completely coordinated with the work of other Sections. Verify dimensions and work of other trades that adjoin materials of this Section before the installation of items herein specified. Cooperate with such trades to assure the steady progress of all work under this Contract.
- F. Project Meetings: Subcontractors shall be required to attend project meetings at the Project site when required by the Designer of Record and MBTA Capital Delivery Department.
- G. Certification: Submit manufacturer's certification that materials furnished comply with requirements specified.
- H. Maintenance Instructions: Submit manufacturer's printed instructions for maintenance of each display case installed to the MBTA, including precautions for use of cleaning materials.
- I. Warranty:
 - 1. Submit a written Manufacturer's warranty for MBTA acceptance, signed by the manufacturer, agreeing to repair or replace display cases that fail due to defects in material or workmanship during the specified warranty period.
 - 2. Warranty Period: 1 Year Limited

0.5 DELIVERY, STORAGE AND HANDLING

- A. Installer: Installer specialized and experienced in work similar to that required for this project shall perform Installation.
- B. Deliver work under this Section to the site in ample time to avoid delay in job progress and at such times as to permit proper coordination of the various parts.
- C. Installation of this work shall be scheduled to occur near time of Substantial Completion.

0.6 PROJECT CONDITIONS

- A. Inspection of Site: The Contractor shall visit the site of the proposed work and become fully acquainted with existing conditions, and to become fully informed as to the facilities involved and the difficulties and restrictions attending the performance of the Contract, prior to submitting a price quotation.
- B. Substrates: Proceed with work of this Section only when substrate construction and penetration work have been completed.

PART 2 - PRODUCTS

0.1 ACCEPTABLE MANUFACTURERS

- A. Manufacturers products must meet or exceed the specifications approved for use on the project. Provide products of one of the following vendors or approved equal:
1. Access Display Group
 2. SwingFrame
 3. Outdoor Display Cases

0.2 MATERIALS

- A. Materials
1. Aluminum Extrusions: Meeting ASTM B221, alloy 6063-T6.
 2. Aluminum Panels: Meeting ASTM B209, minimum 0.032" thick.

0.3 Fabrication

- A. General:
1. Comply with requirements indicated for materials, thickness, finishes, colors, designs, shapes, sizes and details of construction.
 2. Welded Connections: Comply with AWS standards for recommended practices in shop welding. Provide welds behind finished surfaces with distortion or discoloration of exposed side. Clear exposed welded surfaces of welding flux and dress on exposed and contact surfaces.
 3. Mill joints to a tight, hairline fit.
 4. Pre-assemble display cases in the shop. No visible fasteners.
 5. Form panels to required size and shape. Comply with requirements indicated for design, dimensions, finish, color and details of construction.
 6. Display cases to be fabricated based on dimensions as shown on Drawings.
 7. Coordinated dimensions and attachment methods to produce display panels with closely fitting joints. Align edges and surfaces with one another in the relationship indicated.
 8. Increase metal thickness or reinforce with concealed stiffeners or backing materials as required to produce surfaces without distortion, buckles, warp or other surface deformations.
 - a. Fabricate frame from extruded aluminum. Corners to have hairline miters and be braced by means of internal aluminum angels. If welding is necessary, none should be visible. Frames shall have a continuous back-up member behind door.
 - b. Venting: Provide venting as recommended by the manufacturer to prevent condensation.

B. Display Case Construction:

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1. Casing: Aluminum extrusion mitered and reinforced with locking corner brackets.
 2. Exterior Backing: 0.032" weather resistant aluminum with silicone sealant.
 3. Interior Backing: 1/32" cork laminated to 7/16" fiberboard.
 4. Weep Holes: on bottom.
 5. Lock: security cam lock.
- C. Finishes:
1. Aluminum with anodized finish: Black.
 2. Aluminum with a satin polyurethane coating. Faces shall be smooth, free of scratches, blemishes or other imperfections.
- D. Door Profile:
1. Hinged aluminum extruded door, mitered and assembled with concealed corner angles, 1/4" shatter resistant acrylic window, and cam lock.
- E. Background:
1. Vinyl (grey) over Cork/Fiberboard.
- F. Mounting:
1. Sign Frame Mounting: Mount display case to sign frame structure through case sides.
 - a. Maintain a minimum 3/16" open joint to allow for venting.

PART 3 - EXECUTION

0.1 INSPECTION

- A. The Installer shall examine substrates, supports, and conditions under which this work is to be performed, and notify the Contractor and the Designer of Record in writing of conditions detrimental to the proper completion of the work. Do not proceed with work until unsatisfactory conditions are corrected. Beginning work means Installer accepts substrates and conditions.
- B. Notification Point: Designer of Record and MBTA Capital Delivery Department will be given 72 hour notice to perform field inspection at the start of installation. If work does not meet project requirements, contractor must remove and replace deficient work.

0.2 INSTALLATION/APPLICATION/ERECTION

- A. All locations where display cases are to be installed new or retrofitted to existing frames must be field measured by contractor. This must be

documented and sent to the Designer of Record and MBTA Capital Delivery Department.

- B. Strictly comply with approved shop drawings and manufacturer's instructions and recommendations, except where more restrictive requirements are specified in this Section.
- C. Install work plumb, level, and in true plane and alignment and at heights indicated in accordance with manufacturer's recommendations.
- D. Install products at heights to conform to Americans with Disabilities Act Accessibility Guidelines (ADAAG) and applicable local amendments and regulations.
- E. Follow manufacturer's instructions for storage and handling of units before installation.
- F. Protect adjacent or adjoining surfaces and work from damage during installation in this Section.
- G. Work shall be designed and anchored so that work will not be distorted nor the fasteners overstressed from expansion and contraction of metal or other materials as applicable.

0.3 CLEANING AND PROTECTION

- A. Touch-up damaged finishes and eliminate any evidence of repair. Clean exposed surfaces using materials and methods recommended by manufacturer of material or product being cleaned. Remove and replace work that cannot be successfully repaired or cleaned.
- B. Provide temporary protection to ensure work is delivered without damage or deterioration at time of final acceptance. Remove protections and reclean as necessary immediately before final acceptance.
- C. Manufacturer shall provide Authority with information on cleaning and maintenance recommendations for all display cases.
- D. Names, stamps and decals of manufacturers, installers or maintainers of display cases shall not be visible in the finished work.

PART 4 - MEASUREMENT AND PAYMENT

0.1 MEASUREMENT

- A. Display cases will be measured as per each complete in place, including all preparation, accessories and incidentals.

0.2 PAYMENT

- A. Payment for display cases will be made at the Contract unit price for the quantities as specified above.

0.3 PAYMENT ITEMS

ITEM NO.	DESCRIPTION	UNIT
1041.012	DISPLAY CASE	EA

END OF SECTION